

# **EXHIBIT V**

IN THE UNITED STATES DISTRICT COURT  
FOR THE NORTHERN DISTRICT OF OHIO  
EASTERN DIVISION

IN RE NATIONAL  
PRESCRIPTION OPIATE  
LITIGATION

: MDL No. 2804  
: CASE NO. 17-MD-2804  
: (DAP)  
:

EXPERT REPORT OF CRAIG J. MCCANN, PH.D., CFA  
March 25, 2019

## **I. Qualifications and Remuneration**

### **A. Qualifications**

1. I am the President of Securities Litigation and Consulting Group, Inc. (“SLCG”). SLCG was founded in 2000 to apply finance, economics, statistics and mathematics in litigation and consulting. SLCG staff includes professionals with PhDs and advanced degrees in applied mathematics, statistics, finance and economics.

2. Prior to founding SLCG, I was a Director at LECG, a business unit of Navigant Consulting, Inc. Prior to joining LECG, I was Managing Director, Securities Litigation at KPMG LLP for two years. I was a senior financial economist in the Office of Economic Analysis at the U.S. Securities and Exchange Commission (the “SEC”) from 1992 to 1993 and from 1994 to 1995.

3. I have taught graduate economics and finance courses at the University of South Carolina, Virginia Tech, Georgetown University and at the University of Maryland, College Park.

4. I have been hired as a consultant and expert witness in investigations by many state and federal agencies including the SEC, the Federal Deposit Insurance Corporation and the U.S. Department of Justice.

5. My work as a consultant and expert witness over the past 25 years has required me to extract or receive data, process and validate the data and produce varied statistical analyses.

6. I earned a Ph.D. in Economics from the University of California, at Los Angeles. My graduate studies included extensive coursework in mathematics, statistics and econometrics.

7. My resume, which includes a list of all publications authored by me within the last 10 years and the cases in which I have testified as an expert at trial or by deposition within the last four years, is attached as Appendix 1.

### **B. Remuneration**

8. SLCG is being compensated for its time and expenses. My hourly rate is \$475 per hour. Other SLCG personnel working on this matter have billing rates of \$100 to \$350 per hour.

## **II. Materials Reviewed**

9. In preparing this report, I have considered the following documents:

- a. Automation of Reports and Consolidated Orders System (ARCOS) electronic data, received from the Drug Enforcement Administration (hereafter, “ARCOS Data”);
- b. “ARCOS Retail Drug Summary Reports,” Drug Enforcement Administration, 2000-2017, (available at [www.deadiversion.usdoj.gov/arcos/retail\\_drug\\_summary/index.html](http://www.deadiversion.usdoj.gov/arcos/retail_drug_summary/index.html));
- c. “National Drug Code Dictionary,” Drug Enforcement Administration, November 2018 (current version available at [www.deadiversion.usdoj.gov/arcos/ndc/ndcfile.txt](http://www.deadiversion.usdoj.gov/arcos/ndc/ndcfile.txt));

- d. “NDC Dictionary Instructions,” Drug Enforcement Administration, October 2010 (current version available at [www.deadiversion.usdoj.gov/arcos/ndc/readme.txt](http://www.deadiversion.usdoj.gov/arcos/ndc/readme.txt));
- e. “NDC/NHRIC Labeler Codes,” U.S. Food & Drug Administration, January 2018 (current version available at [www.fda.gov/ForIndustry/DataStandards/StructuredProductLabeling/ucm191017.htm](http://www.fda.gov/ForIndustry/DataStandards/StructuredProductLabeling/ucm191017.htm));
- f. “Opioid Oral Morphine Milligram Equivalent (MME) Conversion Factors,” Centers for Disease Control and Prevention, August 2017 (current version available at [www.cdc.gov/drugoverdose/resources/data.html](http://www.cdc.gov/drugoverdose/resources/data.html));
- g. “Full Replacement Monthly NPI File,” Centers for Medicare and Medicaid Services, November 2018 (current version available at [download.cms.gov/nppes/NPI\\_Files.html](http://download.cms.gov/nppes/NPI_Files.html));
- h. ARCOS Registrant Handbook, Drug Enforcement Administration, August 1997 (current version available at [www.deadiversion.usdoj.gov/arcos/handbook/full.pdf](http://www.deadiversion.usdoj.gov/arcos/handbook/full.pdf));
- i. *Masters Pharmaceutical, Inc. v. Drug Enforcement Administration*, 861 F.3d 206 (D.C. Cir. 2017);
- j. U.S. Dep’t of Justice, DEA, *Chemical Handler’s Manual: A Guide to Chemical Control Regulations* (2004), (WAGMDL00395965);
- k. U.S. Dep’t of Justice, DEA, *Diversion Investigators Manual* (1990)(CAH\_MDL\_PRIORPROD\_DEA07\_01176247);

l. U.S. Dep't of Justice, DEA, Diversion Investigators Manual (1996) (CAH\_MDL2804\_02203353);

m. Other documents cited in the text and footnotes below.

### **III. Assignment**

10. I have been asked by Plaintiffs' Counsel to document how I processed, validated and augmented opioid transaction data produced by the Drug Enforcement Administration ("DEA") and from the Defendants.

11. I have been asked to summarize shipments in the ARCOS Data, especially those shipments into Cuyahoga County and Summit County.

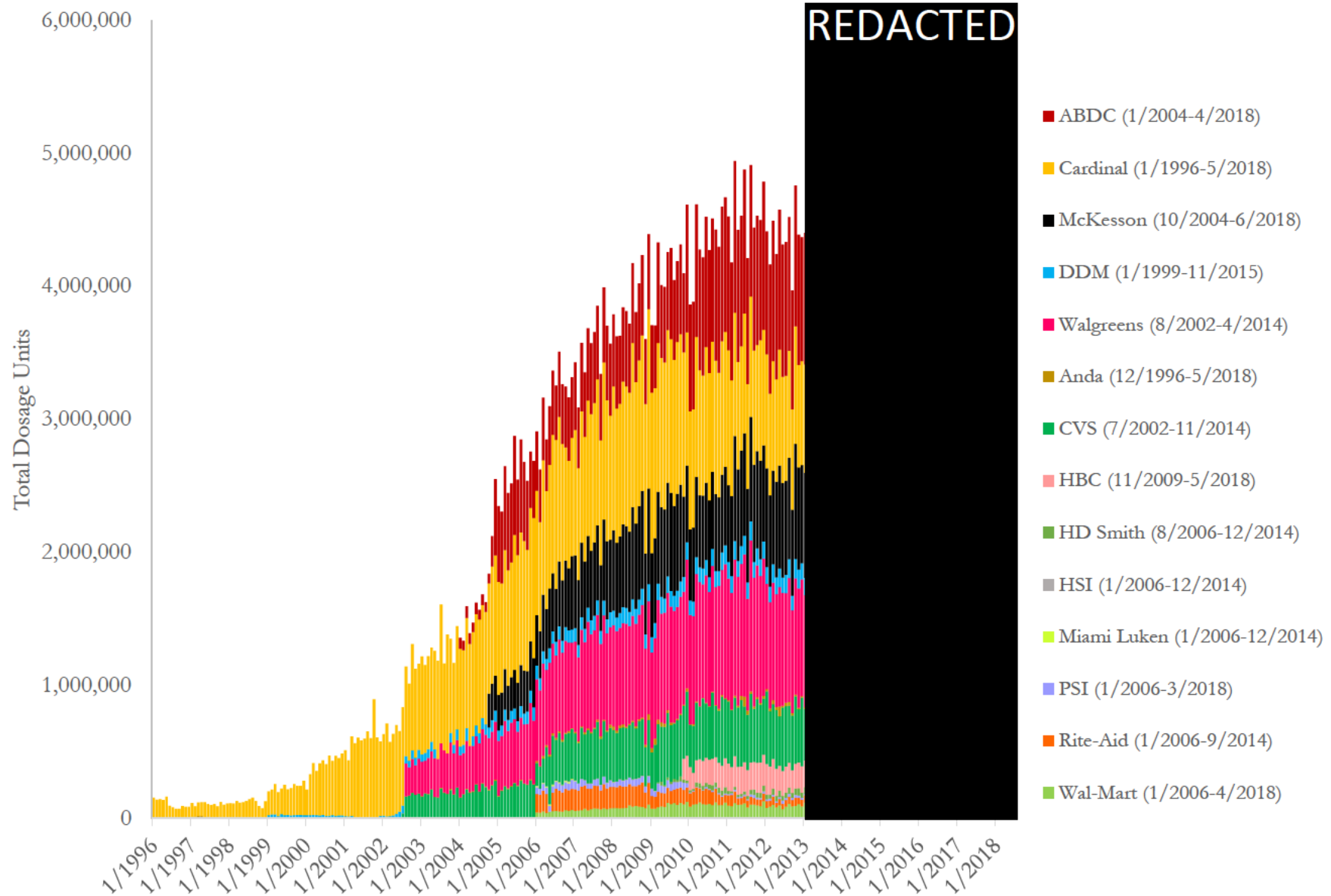
12. I have also been asked to report the results of applying certain algorithms to the ARCOS Data.

### **IV. Summary of Opinions**

13. Based upon my comparison of the ARCOS Data produced by the DEA and the public ARCOS Retail Drug Summary Reports, I conclude that, after correcting a relatively small number of records, the ARCOS Data produced by the DEA is reliable.

14. I conclude that the ARCOS Data is reliable because it closely matches the DEA's Retail Drug Summary Reports for January 2006 through December 2014. Retail Drug Summary Reports summarize the weight of drugs in reported transactions with consumers in each of the 50 states and the District of Columbia. Where there were discrepancies between the ARCOS Data produced by the DEA and the Retail Drug Summary Reports, I was able

## All Defendants 12 Opioid Drug Distribution into Cuyahoga County, OH 1996 - 2018

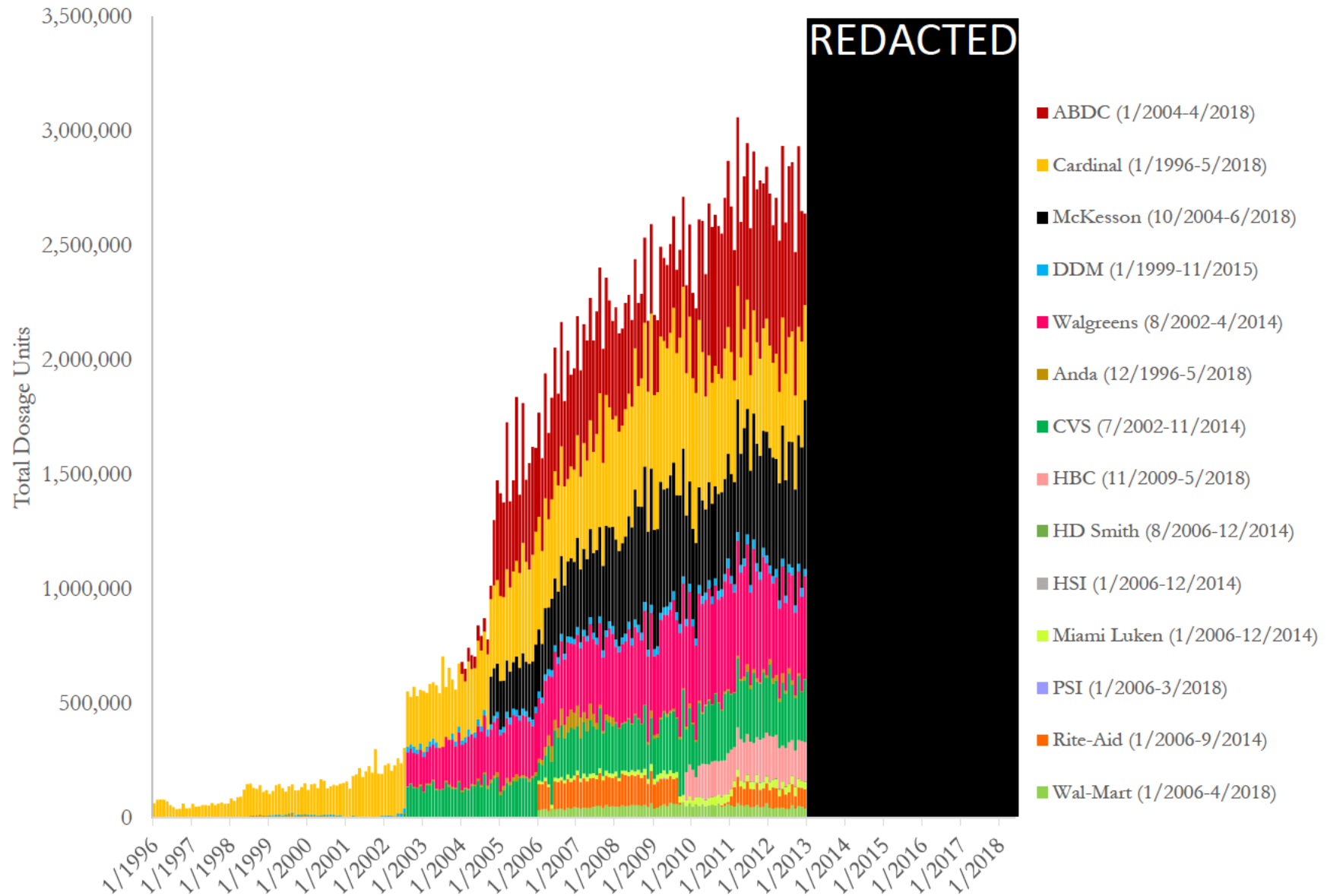


Data source: ARCOS (2006-2014) and defendant transactional data

12 opioid drugs include: Codeine, Dihydrocodeine, Fentanyl, Hydrocodone, Hydromorphone, Levorphanol, Meperidine, Morphine, Opium, Oxycodone, Oxymorphone, Tapentadol

March 2019

## All Defendant 12 Opioid Drug Distribution into Summit County, OH 1996 - 2018



Data source: ARCOS (2006-2014) and defendant transactional data

12 opioid drugs include: Codeine, Dihydrocodeine, Fentanyl, Hydrocodone, Hydromorphone, Levorphanol, Meperidine, Morphine, Opium, Oxycodone, Oxymorphone, Tapentadol

March 2019



**Opioid Shipments to Pharmacies in Cuyahoga County, OH**  
2006 - 2014

| Page | DEA<br>Number | Pharmacy | Address | Type <sup>1</sup> | Total Dosage<br>Units | Weight<br>in mg | Total<br>MME |
|------|---------------|----------|---------|-------------------|-----------------------|-----------------|--------------|
| 1    | REDACTED      |          |         | C                 | 9,439,144             | 106,168         | 148,823,836  |
| 5    |               |          |         | R                 | 3,220,684             | 65,837          | 101,193,011  |
| 10   |               |          |         | R                 | 3,177,454             | 56,864          | 93,850,731   |
| 14   |               |          |         | C                 | 6,877,132             | 71,000          | 93,564,044   |
| 19   |               |          |         | R                 | 3,921,195             | 57,357          | 86,426,553   |
| 23   |               |          |         | R                 | 4,498,529             | 34,310          | 83,763,793   |
| 27   |               |          |         | R                 | 7,483,329             | 51,634          | 83,048,618   |
| 31   |               |          |         | R                 | 2,261,882             | 39,251          | 74,962,129   |
| 35   |               |          |         | C                 | 4,645,702             | 43,729          | 71,408,433   |
| 39   |               |          |         | R                 | 3,530,387             | 31,478          | 69,872,764   |
| 43   |               |          |         | C                 | 5,333,591             | 48,728          | 69,606,155   |
| 47   |               |          |         | C                 | 5,401,146             | 50,534          | 67,630,712   |
| 51   |               |          |         | C                 | 4,834,040             | 43,630          | 65,525,064   |
| 55   |               |          |         | R                 | 3,260,450             | 25,409          | 64,241,305   |
| 59   |               |          |         | R                 | 3,669,811             | 26,958          | 56,970,517   |
| 62   |               |          |         | C                 | 3,970,422             | 39,248          | 56,211,896   |
| 66   |               |          |         | C                 | 4,757,197             | 38,091          | 52,765,599   |
| 70   |               |          |         | C                 | 4,927,250             | 39,962          | 47,597,438   |
| 74   |               |          |         | C                 | 3,819,737             | 37,787          | 47,299,282   |
| 78   |               |          |         | R                 | 2,811,106             | 31,413          | 46,906,898   |
| 83   |               |          |         | R                 | 2,322,545             | 32,348          | 45,504,357   |
| 87   |               |          |         | C                 | 3,302,023             | 30,765          | 45,371,766   |
| 91   |               |          |         | C                 | 2,640,719             | 29,937          | 45,122,247   |
| 95   |               |          |         | C                 | 2,616,965             | 30,065          | 44,925,720   |
| 99   |               |          |         | C                 | 2,995,267             | 33,976          | 44,149,983   |
| 103  |               |          |         | C                 | 3,474,783             | 32,243          | 42,944,462   |
| 107  |               |          |         | C                 | 2,539,394             | 33,415          | 42,924,733   |
| 111  |               |          |         | C                 | 2,868,051             | 31,602          | 40,939,728   |
| 115  |               |          |         | C                 | 2,696,477             | 25,874          | 39,632,247   |
| 119  |               |          |         | R                 | 2,754,420             | 25,098          | 37,922,348   |
| 123  |               |          |         | C                 | 3,572,879             | 27,923          | 37,084,153   |
| 127  |               |          |         | C                 | 3,011,260             | 31,280          | 36,767,672   |
| 131  |               |          |         | R                 | 1,923,359             | 25,692          | 35,209,533   |
| 135  |               |          |         | C                 | 3,181,432             | 27,761          | 35,197,320   |
| 139  |               |          |         | C                 | 2,276,182             | 23,397          | 35,085,948   |
| 143  |               |          |         | C                 | 2,941,583             | 23,788          | 32,881,364   |
| 147  |               |          |         | C                 | 2,462,072             | 28,759          | 32,869,944   |
| 151  |               |          |         | C                 | 2,237,919             | 23,903          | 31,758,181   |
| 155  |               |          |         | C                 | 2,053,892             | 24,293          | 31,693,238   |
| 159  |               |          |         | C                 | 2,400,538             | 21,433          | 31,405,653   |
| 163  |               |          |         | C                 | 2,252,613             | 18,329          | 30,957,813   |

## Opioid Shipments to Pharmacies in Cuyahoga County, OH

2006 - 2014

| Page | DEA<br>Number | Pharmacy | Address  | Type <sup>1</sup> | Total Dosage<br>Units | Weight<br>in mg | Total<br>MME |
|------|---------------|----------|----------|-------------------|-----------------------|-----------------|--------------|
| 167  |               |          | REDACTED | C                 | 2,562,006             | 19,055          | 30,465,290   |
| 171  |               |          | REDACTED | C                 | 2,441,815             | 26,438          | 30,393,664   |
| 175  |               |          | REDACTED | C                 | 2,806,734             | 26,379          | 29,772,018   |
| 179  |               |          | REDACTED | C                 | 1,877,225             | 21,499          | 29,696,334   |
| 183  |               |          | REDACTED | C                 | 2,862,565             | 23,289          | 28,975,574   |
| 187  |               |          | REDACTED | R                 | 3,325,898             | 27,072          | 28,611,652   |
| 191  |               |          | REDACTED | C                 | 1,615,645             | 19,064          | 27,701,395   |
| 195  |               |          | REDACTED | C                 | 2,302,838             | 19,195          | 27,566,379   |
| 200  |               |          | REDACTED | C                 | 2,361,579             | 18,247          | 27,320,984   |
| 204  |               |          | REDACTED | C                 | 1,818,235             | 21,839          | 26,510,427   |
| 208  |               |          | REDACTED | C                 | 1,897,391             | 21,904          | 26,471,563   |
| 212  |               |          | REDACTED | C                 | 2,238,790             | 19,228          | 26,434,991   |
| 217  |               |          | REDACTED | C                 | 2,946,139             | 21,495          | 24,743,835   |
| 221  |               |          | REDACTED | C                 | 1,880,529             | 20,724          | 24,714,275   |
| 225  |               |          | REDACTED | C                 | 2,327,485             | 21,864          | 24,642,398   |
| 229  |               |          | REDACTED | C                 | 2,359,920             | 18,755          | 24,639,172   |
| 233  |               |          | REDACTED | C                 | 2,203,866             | 18,543          | 24,496,993   |
| 237  |               |          | REDACTED | C                 | 2,683,960             | 19,366          | 24,405,880   |
| 241  |               |          | REDACTED | C                 | 1,810,077             | 16,148          | 23,890,073   |
| 245  |               |          | REDACTED | C                 | 1,651,984             | 16,596          | 23,165,699   |
| 250  |               |          | REDACTED | C                 | 1,869,453             | 17,152          | 23,154,677   |
| 254  |               |          | REDACTED | C                 | 1,896,587             | 17,786          | 23,114,667   |
| 258  |               |          | REDACTED | R                 | 1,814,732             | 15,138          | 23,007,728   |
| 262  |               |          | REDACTED | C                 | 1,816,941             | 17,981          | 22,861,337   |
| 266  |               |          | REDACTED | C                 | 1,708,840             | 15,178          | 22,699,573   |
| 270  |               |          | REDACTED | C                 | 2,370,221             | 16,383          | 22,308,551   |
| 274  |               |          | REDACTED | C                 | 2,140,125             | 17,021          | 21,891,787   |
| 278  |               |          | REDACTED | C                 | 1,979,031             | 15,173          | 21,688,396   |
| 283  |               |          | REDACTED | C                 | 2,152,243             | 15,785          | 21,436,092   |
| 287  |               |          | REDACTED | C                 | 2,224,620             | 15,930          | 21,224,530   |
| 291  |               |          | REDACTED | C                 | 1,682,112             | 14,094          | 20,741,802   |
| 295  |               |          | REDACTED | C                 | 1,784,549             | 14,037          | 20,113,016   |
| 299  |               |          | REDACTED | C                 | 1,569,128             | 15,226          | 19,915,771   |
| 303  |               |          | REDACTED | C                 | 1,430,309             | 13,081          | 19,551,807   |
| 307  |               |          | REDACTED | C                 | 1,467,465             | 14,769          | 19,267,103   |
| 311  |               |          | REDACTED | R                 | 1,066,015             | 12,455          | 19,016,178   |
| 317  |               |          | REDACTED | R                 | 1,072,284             | 12,511          | 18,928,349   |
| 321  |               |          | REDACTED | R                 | 1,863,192             | 14,422          | 18,796,726   |
| 325  |               |          | REDACTED | C                 | 1,017,088             | 12,870          | 18,572,641   |
| 329  |               |          | REDACTED | R                 | 2,315,435             | 15,915          | 18,523,489   |
| 333  |               |          | REDACTED | R                 | 988,031               | 7,971           | 18,385,962   |

**Opioid Shipments to Pharmacies in Cuyahoga County, OH**  
2006 - 2014

| Page | DEA<br>Number | Pharmacy | Address  | Type <sup>1</sup> | Total Dosage<br>Units | Weight<br>in mg | Total<br>MME |
|------|---------------|----------|----------|-------------------|-----------------------|-----------------|--------------|
| 336  |               |          | REDACTED | C                 | 1,873,946             | 14,222          | 18,380,452   |
| 340  |               |          | REDACTED | C                 | 2,323,434             | 16,631          | 18,329,219   |
| 344  |               |          | REDACTED | C                 | 1,540,257             | 13,398          | 18,171,051   |
| 349  |               |          | REDACTED | C                 | 1,193,880             | 15,006          | 17,705,207   |
| 353  |               |          | REDACTED | C                 | 2,116,190             | 13,253          | 17,639,788   |
| 358  |               |          | REDACTED | C                 | 1,218,536             | 12,488          | 17,565,644   |
| 362  |               |          | REDACTED | R                 | 2,038,079             | 10,950          | 17,414,617   |
| 366  |               |          | REDACTED | C                 | 1,934,429             | 17,320          | 17,364,216   |
| 370  |               |          | REDACTED | R                 | 5,231,200             | 29,598          | 17,230,798   |
| 374  |               |          | REDACTED | C                 | 1,145,269             | 13,304          | 17,146,892   |
| 378  |               |          | REDACTED | R                 | 1,192,208             | 12,682          | 17,017,182   |
| 381  |               |          | REDACTED | C                 | 1,296,555             | 12,839          | 17,015,488   |
| 385  |               |          | REDACTED | C                 | 1,354,176             | 11,486          | 16,956,850   |
| 389  |               |          | REDACTED | C                 | 1,485,581             | 13,262          | 16,914,173   |
| 393  |               |          | REDACTED | C                 | 1,355,320             | 13,196          | 16,895,818   |
| 398  |               |          | REDACTED | C                 | 1,371,274             | 12,185          | 16,655,889   |
| 402  |               |          | REDACTED | C                 | 2,096,452             | 13,875          | 16,622,426   |
| 406  |               |          | REDACTED | C                 | 1,497,255             | 13,505          | 16,567,806   |
| 410  |               |          | REDACTED | C                 | 1,624,436             | 14,008          | 16,392,167   |
| 414  |               |          | REDACTED | C                 | 1,567,604             | 12,169          | 16,142,475   |
| 418  |               |          | REDACTED | C                 | 1,490,824             | 13,874          | 16,043,206   |
| 422  |               |          | REDACTED | C                 | 966,725               | 8,126           | 15,941,209   |
| 426  |               |          | REDACTED | C                 | 1,737,196             | 12,133          | 15,715,369   |
| 431  |               |          | REDACTED | C                 | 1,706,486             | 12,409          | 15,627,921   |
| 435  |               |          | REDACTED | C                 | 1,943,420             | 12,082          | 15,465,374   |
| 439  |               |          | REDACTED | C                 | 1,507,285             | 11,753          | 15,072,783   |
| 443  |               |          | REDACTED | C                 | 1,148,561             | 11,481          | 14,922,386   |
| 447  |               |          | REDACTED | C                 | 779,881               | 9,469           | 14,728,696   |
| 451  |               |          | REDACTED | C                 | 1,179,185             | 10,184          | 14,625,821   |
| 455  |               |          | REDACTED | C                 | 1,417,629             | 9,763           | 14,235,459   |
| 459  |               |          | REDACTED | C                 | 915,650               | 10,279          | 14,216,650   |
| 463  |               |          | REDACTED | R                 | 1,447,141             | 9,816           | 14,136,167   |
| 467  |               |          | REDACTED | C                 | 669,656               | 9,176           | 13,919,743   |
| 471  |               |          | REDACTED | C                 | 1,526,124             | 12,430          | 13,880,574   |
| 475  |               |          | REDACTED | C                 | 1,580,883             | 11,608          | 13,756,136   |
| 479  |               |          | REDACTED | C                 | 2,154,361             | 12,485          | 13,490,174   |
| 484  |               |          | REDACTED | R                 | NA                    | 3,136           | 13,160,692   |
| 488  |               |          | REDACTED | C                 | 1,669,112             | 11,814          | 13,097,373   |
| 493  |               |          | REDACTED | C                 | 1,617,259             | 10,652          | 13,062,558   |
| 497  |               |          | REDACTED | R                 | 537,814               | 8,626           | 12,952,981   |
| 500  |               |          | REDACTED | C                 | 1,318,607             | 8,369           | 12,241,574   |

## Opioid Shipments to Pharmacies in Cuyahoga County, OH

2006 - 2014

| Page | DEA<br>Number | Pharmacy | Address | Type <sup>1</sup> | Total Dosage<br>Units | Weight<br>in mg | Total<br>MME |
|------|---------------|----------|---------|-------------------|-----------------------|-----------------|--------------|
| 504  | REDACTED      |          |         | C                 | 1,242,622             | 9,348           | 12,031,706   |
| 508  |               |          |         | C                 | 1,315,519             | 10,326          | 12,000,850   |
| 512  |               |          |         | C                 | 1,211,011             | 8,935           | 11,804,400   |
| 516  |               |          |         | C                 | 1,614,850             | 9,320           | 11,784,154   |
| 520  |               |          |         | C                 | 1,213,286             | 7,938           | 11,587,357   |
| 524  |               |          |         | C                 | 811,756               | 8,326           | 11,519,504   |
| 528  |               |          |         | C                 | 1,157,234             | 8,398           | 11,492,658   |
| 532  |               |          |         | C                 | 779,298               | 7,077           | 11,422,622   |
| 536  |               |          |         | C                 | 1,052,446             | 8,429           | 11,361,575   |
| 540  |               |          |         | C                 | 1,248,957             | 11,884          | 11,250,310   |
| 544  |               |          |         | C                 | 1,154,114             | 7,332           | 11,098,397   |
| 548  |               |          |         | C                 | 974,001               | 8,464           | 10,942,670   |
| 552  |               |          |         | C                 | 1,504,925             | 9,829           | 10,897,993   |
| 557  |               |          |         | R                 | 1,619,460             | 12,842          | 10,868,799   |
| 561  |               |          |         | C                 | 1,129,379             | 9,603           | 10,799,500   |
| 565  |               |          |         | C                 | 1,253,262             | 9,218           | 10,663,451   |
| 569  |               |          |         | C                 | 1,499,345             | 9,569           | 10,448,873   |
| 573  |               |          |         | C                 | 1,408,807             | 8,310           | 10,350,995   |
| 578  |               |          |         | C                 | 931,770               | 7,323           | 10,342,546   |
| 582  |               |          |         | C                 | 1,264,885             | 7,675           | 10,266,143   |
| 586  |               |          |         | C                 | 1,028,748             | 7,993           | 10,231,045   |
| 590  |               |          |         | C                 | 1,277,153             | 7,585           | 10,155,075   |
| 594  |               |          |         | R                 | 821,622               | 7,474           | 9,898,659    |
| 598  |               |          |         | C                 | 1,249,685             | 11,577          | 9,863,848    |
| 602  |               |          |         | C                 | 988,737               | 7,488           | 9,772,131    |
| 606  |               |          |         | C                 | 1,586,823             | 9,265           | 9,755,273    |
| 610  |               |          |         | C                 | 1,048,460             | 7,940           | 9,712,372    |
| 614  |               |          |         | C                 | 1,027,710             | 7,107           | 9,675,363    |
| 618  |               |          |         | C                 | 936,491               | 7,982           | 9,540,768    |
| 622  |               |          |         | C                 | 1,231,212             | 7,900           | 9,446,578    |
| 626  |               |          |         | C                 | 815,799               | 8,700           | 9,295,421    |
| 630  |               |          |         | C                 | 576,760               | 6,354           | 9,275,074    |
| 634  |               |          |         | C                 | 853,105               | 7,449           | 9,220,046    |
| 638  |               |          |         | C                 | 582,975               | 7,518           | 9,014,469    |
| 642  |               |          |         | C                 | 646,682               | 5,957           | 8,977,574    |
| 646  |               |          |         | C                 | 708,905               | 6,706           | 8,919,422    |
| 650  |               |          |         | R                 | 1,018,645             | 8,741           | 8,918,277    |
| 653  |               |          |         | C                 | 1,202,562             | 8,065           | 8,906,602    |
| 658  |               |          |         | R                 | 442,880               | 3,950           | 8,873,685    |
| 663  |               |          |         | C                 | 621,229               | 6,228           | 8,801,616    |
| 667  |               |          |         | C                 | 1,276,954             | 7,723           | 8,783,455    |

## Opioid Shipments to Pharmacies in Cuyahoga County, OH

2006 - 2014

| Page | DEA<br>Number | Pharmacy | Address | Type <sup>1</sup> | Total Dosage<br>Units | Weight<br>in mg | Total<br>MME |
|------|---------------|----------|---------|-------------------|-----------------------|-----------------|--------------|
| 671  | REDACTED      |          |         | C                 | 682,484               | 6,069           | 8,700,739    |
| 675  |               |          |         | C                 | 1,322,335             | 7,677           | 8,673,161    |
| 679  |               |          |         | C                 | 849,436               | 6,517           | 8,630,256    |
| 683  |               |          |         | C                 | 1,286,548             | 8,006           | 8,609,694    |
| 687  |               |          |         | C                 | 717,324               | 6,438           | 8,600,221    |
| 691  |               |          |         | C                 | 1,140,454             | 9,386           | 8,598,276    |
| 695  |               |          |         | C                 | 826,950               | 6,029           | 8,416,013    |
| 700  |               |          |         | R                 | 992,000               | 6,273           | 8,338,599    |
| 704  |               |          |         | C                 | 997,755               | 6,947           | 8,260,619    |
| 707  |               |          |         | C                 | 1,030,087             | 6,727           | 8,162,759    |
| 711  |               |          |         | R                 | 485,110               | 3,754           | 8,158,122    |
| 714  |               |          |         | R                 | 992,820               | 7,123           | 8,004,521    |
| 719  |               |          |         | C                 | 1,253,911             | 6,987           | 7,991,172    |
| 724  |               |          |         | C                 | 1,092,265             | 7,247           | 7,870,252    |
| 728  |               |          |         | C                 | 1,016,800             | 5,654           | 7,771,489    |
| 732  |               |          |         | C                 | 856,751               | 5,886           | 7,534,316    |
| 736  |               |          |         | C                 | 679,324               | 4,879           | 7,415,245    |
| 740  |               |          |         | C                 | 1,283,470             | 7,987           | 7,369,841    |
| 744  |               |          |         | C                 | 705,728               | 6,050           | 7,006,190    |
| 749  |               |          |         | C                 | 1,024,058             | 6,085           | 6,927,941    |
| 753  |               |          |         | C                 | 750,212               | 4,926           | 6,887,285    |
| 757  |               |          |         | C                 | 867,492               | 7,662           | 6,874,627    |
| 761  |               |          |         | C                 | 972,099               | 6,784           | 6,836,261    |
| 765  |               |          |         | C                 | 861,930               | 7,723           | 6,836,246    |
| 769  |               |          |         | C                 | NA                    | 2,324           | 6,832,990    |
| 773  |               |          |         | C                 | 720,584               | 5,600           | 6,773,977    |
| 777  |               |          |         | C                 | 678,725               | 5,569           | 6,749,485    |
| 781  |               |          |         | C                 | 875,600               | 5,424           | 6,748,841    |
| 785  |               |          |         | C                 | 735,995               | 4,583           | 6,670,505    |
| 788  |               |          |         | R                 | 408,661               | 2,982           | 6,605,979    |
| 792  |               |          |         | R                 | 685,725               | 5,521           | 6,551,523    |
| 796  |               |          |         | C                 | 1,010,792             | 6,497           | 6,392,405    |
| 800  |               |          |         | R                 | 241,910               | 3,881           | 6,364,023    |
| 803  |               |          |         | C                 | 940,259               | 6,291           | 6,238,185    |
| 807  |               |          |         | R                 | 426,557               | 3,074           | 6,103,544    |
| 810  |               |          |         | C                 | 645,140               | 5,132           | 5,777,885    |
| 813  |               |          |         | C                 | 745,305               | 5,808           | 5,715,419    |
| 817  |               |          |         | C                 | 934,940               | 6,021           | 5,691,279    |
| 821  |               |          |         | C                 | NA                    | 1,761           | 5,641,101    |
| 825  |               |          |         | C                 | 755,077               | 4,820           | 5,594,733    |
| 829  |               |          |         | C                 | 838,090               | 5,900           | 5,449,189    |

## Opioid Shipments to Pharmacies in Cuyahoga County, OH

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| Page | DEA<br>Number | Pharmacy | Address | Type <sup>1</sup> | Total Dosage<br>Units | Weight<br>in mg | Total<br>MME |
|------|---------------|----------|---------|-------------------|-----------------------|-----------------|--------------|
| 833  | REDACTED      |          |         | R                 | 523,412               | 3,684           | 5,308,871    |
| 837  |               |          |         | R                 | 449,715               | 3,488           | 5,295,780    |
| 840  |               |          |         | C                 | 545,528               | 4,472           | 5,237,003    |
| 844  |               |          |         | C                 | 789,010               | 6,723           | 5,104,795    |
| 848  |               |          |         | C                 | 876,435               | 6,977           | 5,086,826    |
| 852  |               |          |         | C                 | 302,455               | 3,658           | 4,934,798    |
| 855  |               |          |         | C                 | 616,021               | 4,459           | 4,866,887    |
| 859  |               |          |         | R                 | 472,725               | 4,313           | 4,810,927    |
| 863  |               |          |         | C                 | 667,515               | 4,665           | 4,515,692    |
| 867  |               |          |         | R                 | 373,939               | 3,253           | 4,409,243    |
| 871  |               |          |         | C                 | 577,035               | 5,141           | 4,279,008    |
| 875  |               |          |         | R                 | 429,979               | 3,883           | 4,221,084    |
| 879  |               |          |         | C                 | 495,159               | 4,176           | 4,197,738    |
| 883  |               |          |         | C                 | 603,045               | 4,544           | 4,180,890    |
| 887  |               |          |         | C                 | 507,913               | 3,427           | 4,097,429    |
| 891  |               |          |         | R                 | 275,099               | 1,971           | 4,090,269    |
| 894  |               |          |         | C                 | 581,880               | 3,805           | 4,036,697    |
| 898  |               |          |         | C                 | 447,132               | 2,981           | 4,015,098    |
| 902  |               |          |         | C                 | 486,819               | 3,443           | 3,983,867    |
| 906  |               |          |         | C                 | 303,202               | 1,844           | 3,876,844    |
| 910  |               |          |         | C                 | 554,895               | 4,290           | 3,869,772    |
| 913  |               |          |         | C                 | 232,305               | 2,936           | 3,806,612    |
| 916  |               |          |         | C                 | 665,552               | 4,777           | 3,774,661    |
| 920  |               |          |         | C                 | 483,215               | 3,697           | 3,745,299    |
| 924  |               |          |         | C                 | 329,440               | 3,182           | 3,716,131    |
| 928  |               |          |         | C                 | 518,720               | 3,564           | 3,684,627    |
| 932  |               |          |         | C                 | 284,045               | 2,285           | 3,620,252    |
| 936  |               |          |         | C                 | 371,870               | 2,851           | 3,595,258    |
| 940  |               |          |         | C                 | 524,975               | 4,034           | 3,562,619    |
| 944  |               |          |         | C                 | 614,600               | 4,125           | 3,559,809    |
| 948  |               |          |         | C                 | 512,450               | 3,638           | 3,553,206    |
| 951  |               |          |         | C                 | 437,922               | 2,780           | 3,530,900    |
| 954  |               |          |         | C                 | 306,536               | 2,770           | 3,344,153    |
| 958  |               |          |         | C                 | 519,287               | 3,169           | 3,318,573    |
| 962  |               |          |         | C                 | 260,006               | 2,731           | 3,283,779    |
| 965  |               |          |         | C                 | 271,872               | 1,992           | 3,277,341    |
| 969  |               |          |         | C                 | 377,669               | 2,789           | 3,277,339    |
| 973  |               |          |         | C                 | 565,530               | 3,324           | 3,222,703    |
| 977  |               |          |         | C                 | 395,565               | 2,719           | 3,113,852    |
| 981  |               |          |         | R                 | 283,345               | 2,766           | 2,949,120    |
| 984  |               |          |         | C                 | 323,380               | 3,250           | 2,777,879    |

**Opioid Shipments to Pharmacies in Cuyahoga County, OH**  
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| Page | DEA<br>Number | Pharmacy | Address  | Type <sup>1</sup> | Total Dosage<br>Units | Weight<br>in mg | Total<br>MME |
|------|---------------|----------|----------|-------------------|-----------------------|-----------------|--------------|
| 988  |               |          | REDACTED | C                 | 290,345               | 1,949           | 2,776,294    |
| 991  |               |          | REDACTED | C                 | 383,872               | 2,317           | 2,739,635    |
| 994  |               |          | REDACTED | R                 | 203,540               | 1,485           | 2,442,930    |
| 997  |               |          | REDACTED | C                 | 321,905               | 2,048           | 2,216,521    |
| 1001 |               |          | REDACTED | C                 | 317,820               | 2,045           | 2,095,625    |
| 1005 |               |          | REDACTED | R                 | 228,972               | 2,215           | 1,942,805    |
| 1009 |               |          | REDACTED | R                 | 229,345               | 1,573           | 1,792,303    |
| 1012 |               |          | REDACTED | R                 | 122,875               | 1,428           | 1,634,440    |
| 1015 |               |          | REDACTED | C                 | 269,550               | 1,432           | 1,584,104    |
| 1018 |               |          | REDACTED | C                 | 124,515               | 1,213           | 1,477,662    |
| 1021 |               |          | REDACTED | R                 | 110,420               | 1,721           | 1,433,743    |
| 1025 |               |          | REDACTED | C                 | 197,610               | 1,463           | 1,429,028    |
| 1028 |               |          | REDACTED | C                 | 157,735               | 1,295           | 1,410,470    |
| 1031 |               |          | REDACTED | R                 | 164,190               | 1,227           | 1,378,320    |
| 1034 |               |          | REDACTED | R                 | 221,120               | 2,096           | 1,109,784    |
| 1038 |               |          | REDACTED | R                 | 84,930                | 741             | 1,077,949    |
| 1041 |               |          | REDACTED | R                 | 49,066                | 728             | 908,894      |
| 1044 |               |          | REDACTED | C                 | 112,215               | 1,217           | 907,080      |
| 1047 |               |          | REDACTED | C                 | 121,300               | 741             | 889,519      |
| 1050 |               |          | REDACTED | C                 | 49,300                | 603             | 858,816      |
| 1053 |               |          | REDACTED | C                 | 61,397                | 477             | 839,649      |
| 1056 |               |          | REDACTED | C                 | 75,820                | 876             | 802,936      |
| 1059 |               |          | REDACTED | R                 | 100                   | 287             | 761,047      |
| 1063 |               |          | REDACTED | R                 | 132,100               | 954             | 738,985      |
| 1066 |               |          | REDACTED | R                 | 90,550                | 1,124           | 723,249      |
| 1069 |               |          | REDACTED | R                 | 89,860                | 564             | 710,781      |
| 1072 |               |          | REDACTED | C                 | 85,447                | 614             | 682,067      |
| 1075 |               |          | REDACTED | R                 | 96,800                | 771             | 657,693      |
| 1078 |               |          | REDACTED | C                 | 38,260                | 416             | 580,238      |
| 1081 |               |          | REDACTED | C                 | 49,755                | 548             | 579,038      |
| 1084 |               |          | REDACTED | R                 | 40,700                | 344             | 566,202      |
| 1087 |               |          | REDACTED | R                 | 54,675                | 709             | 539,208      |
| 1090 |               |          | REDACTED | C                 | 51,285                | 603             | 470,048      |
| 1093 |               |          | REDACTED | C                 | 65,880                | 409             | 423,083      |
| 1096 |               |          | REDACTED | C                 | 28,800                | 306             | 418,770      |
| 1099 |               |          | REDACTED | R                 | 34,290                | 349             | 401,794      |
| 1102 |               |          | REDACTED | C                 | 43,855                | 532             | 401,760      |
| 1105 |               |          | REDACTED | C                 | 78,020                | 943             | 376,315      |
| 1108 |               |          | REDACTED | C                 | 28,985                | 433             | 371,682      |
| 1111 |               |          | REDACTED | C                 | 27,442                | 271             | 368,712      |
| 1114 |               |          | REDACTED | R                 | 69,505                | 1,108           | 283,001      |

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| Page | DEA<br>Number | Pharmacy | Address  | Type <sup>1</sup> | Total Dosage<br>Units | Weight<br>in mg | Total<br>MME |
|------|---------------|----------|----------|-------------------|-----------------------|-----------------|--------------|
| 1118 |               |          | REDACTED | C                 | 31,400                | 253             | 272,249      |
| 1121 |               |          | REDACTED | C                 | 9,020                 | 63              | 240,926      |
| 1124 |               |          | REDACTED | R                 | 28,140                | 210             | 240,137      |
| 1127 |               |          | REDACTED | C                 | 20,770                | 158             | 209,382      |
| 1130 |               |          | REDACTED | R                 | 16,380                | 187             | 207,927      |
| 1133 |               |          | REDACTED | C                 | 34,620                | 491             | 187,500      |
| 1136 |               |          | REDACTED | C                 | 15,725                | 165             | 178,848      |
| 1139 |               |          | REDACTED | C                 | 27,120                | 292             | 174,876      |
| 1142 |               |          | REDACTED | C                 | 19,370                | 243             | 174,444      |
| 1145 |               |          | REDACTED | C                 | 10,790                | 84              | 167,694      |
| 1148 |               |          | REDACTED | R                 | 8,955                 | 64              | 167,575      |
| 1151 |               |          | REDACTED | C                 | 21,795                | 156             | 149,704      |
| 1154 |               |          | REDACTED | C                 | 21,550                | 159             | 143,798      |
| 1157 |               |          | REDACTED | R                 | 7,740                 | 124             | 141,772      |
| 1160 |               |          | REDACTED | R                 | 12,530                | 83              | 139,504      |
| 1163 |               |          | REDACTED | C                 | 10,825                | 89              | 137,149      |
| 1166 |               |          | REDACTED | C                 | 8,410                 | 138             | 120,228      |
| 1169 |               |          | REDACTED | C                 | 17,800                | 176             | 119,794      |
| 1172 |               |          | REDACTED | R                 | 5,525                 | 69              | 117,052      |
| 1175 |               |          | REDACTED | C                 | 7,800                 | 95              | 104,879      |
| 1178 |               |          | REDACTED | R                 | NA                    | 82              | 104,298      |
| 1181 |               |          | REDACTED | C                 | 12,340                | 129             | 76,102       |
| 1184 |               |          | REDACTED | C                 | 8,835                 | 76              | 68,310       |
| 1187 |               |          | REDACTED | C                 | 9,715                 | 107             | 64,309       |
| 1190 |               |          | REDACTED | R                 | 7,715                 | 43              | 62,300       |
| 1193 |               |          | REDACTED | R                 | 12,990                | 84              | 52,125       |
| 1196 |               |          | REDACTED | R                 | 7,440                 | 70              | 49,434       |
| 1199 |               |          | REDACTED | C                 | 7,400                 | 57              | 45,222       |
| 1202 |               |          | REDACTED | R                 | 10,100                | 108             | 39,618       |
| 1206 |               |          | REDACTED | R                 | 5,910                 | 38              | 32,264       |
| 1209 |               |          | REDACTED | R                 | 1,380                 | 18              | 24,671       |
| 1212 |               |          | REDACTED | R                 | 1,510                 | 13              | 22,649       |
| 1215 |               |          | REDACTED | R                 | 1,012                 | 22              | 19,619       |
| 1218 |               |          | REDACTED | R                 | 2,618                 | 18              | 15,812       |
| 1221 |               |          | REDACTED | R                 | 2,500                 | 10              | 11,737       |
| 1224 |               |          | REDACTED | R                 | 1,600                 | 10              | 10,101       |
| 1227 |               |          | REDACTED | R                 | 1,100                 | 8               | 4,598        |
| 1230 |               |          | REDACTED | R                 | 900                   | 4               | 3,632        |
| 1233 |               |          | REDACTED | R                 | 600                   | 9               | 3,179        |
| 1236 |               |          | REDACTED | R                 | 500                   | 7               | 2,476        |
| 1239 |               |          | REDACTED | R                 | 300                   | 3               | 1,676        |



**Opioid Shipments to Pharmacies in Cuyahoga County, OH**

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| Page | DEA<br>Number | Pharmacy | Address | Type <sup>1</sup> | Total Dosage<br>Units | Weight<br>in mg | Total<br>MME |
|------|---------------|----------|---------|-------------------|-----------------------|-----------------|--------------|
|------|---------------|----------|---------|-------------------|-----------------------|-----------------|--------------|

Note

1 "R" denotes "Retail Pharmacy", and "C" denotes "Chain Pharmacy"

## Opioid Shipments to Pharmacies in Summit County, OH

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| Page | DEA<br>Number | Pharmacy | Address | Type <sup>1</sup> | Total Dosage<br>Units | Weight<br>in mg | Total<br>MME |
|------|---------------|----------|---------|-------------------|-----------------------|-----------------|--------------|
| 1    | REDACTED      |          |         | R                 | 8,443,233             | 121,592         | 229,791,622  |
| 4    |               |          |         | R                 | 7,253,003             | 107,198         | 208,411,897  |
| 7    |               |          |         | R                 | 5,903,449             | 97,100          | 174,737,230  |
| 11   |               |          |         | R                 | 5,173,203             | 74,287          | 128,815,387  |
| 14   |               |          |         | C                 | 6,031,901             | 68,594          | 108,394,947  |
| 19   |               |          |         | R                 | 5,958,246             | 59,042          | 87,404,636   |
| 23   |               |          |         | R                 | 3,734,333             | 43,742          | 86,229,782   |
| 27   |               |          |         | C                 | 7,437,315             | 57,147          | 82,079,399   |
| 31   |               |          |         | C                 | 6,931,522             | 46,701          | 69,545,895   |
| 36   |               |          |         | C                 | 5,038,035             | 43,024          | 65,972,776   |
| 40   |               |          |         | C                 | 4,836,422             | 42,701          | 62,202,915   |
| 44   |               |          |         | C                 | 4,602,677             | 39,392          | 61,888,598   |
| 48   |               |          |         | R                 | 4,298,764             | 38,371          | 59,245,746   |
| 52   |               |          |         | C                 | 5,221,638             | 37,773          | 54,705,405   |
| 57   |               |          |         | C                 | 3,363,407             | 32,769          | 51,811,510   |
| 62   |               |          |         | C                 | 3,993,229             | 35,294          | 49,264,106   |
| 66   |               |          |         | C                 | 4,740,572             | 34,607          | 47,818,706   |
| 70   |               |          |         | R                 | 2,369,636             | 29,669          | 46,520,276   |
| 74   |               |          |         | R                 | 2,781,075             | 29,922          | 46,141,849   |
| 78   |               |          |         | R                 | 2,927,586             | 24,813          | 42,910,897   |
| 82   |               |          |         | C                 | 3,106,770             | 27,727          | 41,765,424   |
| 87   |               |          |         | C                 | 3,229,381             | 24,627          | 41,295,290   |
| 91   |               |          |         | C                 | 3,448,212             | 27,729          | 41,263,834   |
| 95   |               |          |         | C                 | 4,083,262             | 30,200          | 40,392,593   |
| 99   |               |          |         | C                 | 3,793,949             | 26,953          | 38,066,603   |
| 103  |               |          |         | C                 | 3,793,240             | 27,388          | 37,426,446   |
| 107  |               |          |         | C                 | 3,267,322             | 25,733          | 36,804,795   |
| 111  |               |          |         | C                 | 4,074,691             | 27,747          | 36,700,349   |
| 116  |               |          |         | C                 | 2,267,241             | 22,984          | 36,442,243   |
| 119  |               |          |         | R                 | 2,732,900             | 19,432          | 36,305,435   |
| 123  |               |          |         | C                 | 2,496,517             | 24,310          | 35,309,849   |
| 127  |               |          |         | R                 | 3,313,101             | 25,542          | 34,837,474   |
| 131  |               |          |         | C                 | 2,691,340             | 21,720          | 33,251,693   |

## Opioid Shipments to Pharmacies in Summit County, OH

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| Page | DEA<br>Number | Pharmacy | Address | Type <sup>1</sup> | Total Dosage<br>Units | Weight<br>in mg | Total<br>MME |
|------|---------------|----------|---------|-------------------|-----------------------|-----------------|--------------|
| 135  | REDACTED      |          |         | C                 | 2,436,735             | 23,362          | 33,237,638   |
| 139  |               |          |         | C                 | 2,376,951             | 22,693          | 32,936,027   |
| 143  |               |          |         | C                 | 2,230,484             | 18,627          | 31,779,620   |
| 147  |               |          |         | C                 | 2,087,832             | 23,233          | 31,278,077   |
| 151  |               |          |         | R                 | 1,576,718             | 20,834          | 30,957,103   |
| 155  |               |          |         | C                 | 1,980,665             | 17,790          | 30,883,083   |
| 160  |               |          |         | C                 | 2,690,597             | 21,758          | 30,755,735   |
| 164  |               |          |         | R                 | 1,413,330             | 15,926          | 29,991,105   |
| 168  |               |          |         | C                 | 3,283,756             | 21,981          | 29,400,879   |
| 172  |               |          |         | C                 | 2,013,302             | 19,296          | 29,355,258   |
| 177  |               |          |         | R                 | 1,265,557             | 19,023          | 29,143,635   |
| 184  |               |          |         | R                 | 1,741,195             | 18,273          | 28,778,562   |
| 188  |               |          |         | R                 | 796,373               | 17,152          | 27,838,498   |
| 191  |               |          |         | C                 | 2,184,150             | 18,869          | 27,713,925   |
| 196  |               |          |         | C                 | 2,184,896             | 19,108          | 27,268,155   |
| 200  |               |          |         | C                 | 2,933,284             | 19,021          | 26,210,309   |
| 205  |               |          |         | C                 | 2,751,111             | 20,057          | 26,165,880   |
| 209  |               |          |         | R                 | 1,768,797             | 15,691          | 25,782,756   |
| 213  |               |          |         | C                 | 1,818,288             | 15,823          | 25,695,036   |
| 217  |               |          |         | C                 | 1,769,270             | 16,847          | 24,988,429   |
| 221  |               |          |         | C                 | 2,526,197             | 17,243          | 24,440,590   |
| 226  |               |          |         | R                 | 2,057,054             | 16,134          | 24,084,358   |
| 230  |               |          |         | C                 | 1,957,126             | 15,358          | 23,814,674   |
| 234  |               |          |         | R                 | 1,197,345             | 9,567           | 23,599,717   |
| 238  |               |          |         | C                 | 2,369,047             | 16,577          | 23,541,311   |
| 243  |               |          |         | R                 | 2,165,663             | 16,650          | 21,917,129   |
| 247  |               |          |         | C                 | 1,651,208             | 13,460          | 21,882,714   |
| 251  |               |          |         | C                 | 1,926,906             | 14,999          | 21,872,465   |
| 255  |               |          |         | C                 | 1,334,130             | 12,845          | 19,867,041   |
| 259  |               |          |         | C                 | 1,892,800             | 15,107          | 18,881,742   |
| 263  |               |          |         | C                 | 1,551,279             | 12,753          | 18,308,901   |
| 267  |               |          |         | C                 | 2,437,077             | 14,449          | 17,968,008   |
| 271  |               |          |         | R                 | 1,318,341             | 11,195          | 17,775,688   |

## Opioid Shipments to Pharmacies in Summit County, OH

2006 - 2014

| Page | DEA<br>Number | Pharmacy | Address | Type <sup>1</sup> | Total Dosage<br>Units | Weight<br>in mg | Total<br>MME |
|------|---------------|----------|---------|-------------------|-----------------------|-----------------|--------------|
| 275  | REDACTED      |          |         | R                 | 1,234,452             | 10,117          | 16,918,648   |
| 279  |               |          |         | C                 | 1,974,590             | 12,852          | 16,685,669   |
| 283  |               |          |         | C                 | 1,934,569             | 12,469          | 16,505,331   |
| 287  |               |          |         | R                 | 1,327,595             | 10,461          | 15,707,417   |
| 291  |               |          |         | C                 | 2,095,015             | 12,618          | 15,666,883   |
| 295  |               |          |         | R                 | 819,059               | 8,865           | 15,554,813   |
| 299  |               |          |         | C                 | 1,161,026             | 9,103           | 15,397,299   |
| 303  |               |          |         | C                 | 1,466,825             | 10,917          | 15,126,138   |
| 308  |               |          |         | C                 | 1,308,885             | 8,907           | 14,070,097   |
| 312  |               |          |         | R                 | 1,096,191             | 8,302           | 13,827,561   |
| 316  |               |          |         | C                 | 1,674,530             | 10,348          | 13,288,290   |
| 320  |               |          |         | C                 | 1,148,016             | 8,803           | 13,239,248   |
| 323  |               |          |         | C                 | 1,157,684             | 10,688          | 12,592,610   |
| 327  |               |          |         | R                 | 518,921               | 7,673           | 11,855,220   |
| 330  |               |          |         | R                 | 845,177               | 7,742           | 11,724,148   |
| 334  |               |          |         | C                 | 1,152,540             | 8,825           | 11,246,993   |
| 338  |               |          |         | R                 | 736,906               | 5,515           | 11,063,499   |
| 342  |               |          |         | C                 | 1,116,287             | 7,178           | 9,985,670    |
| 346  |               |          |         | C                 | 1,651,751             | 8,510           | 9,805,197    |
| 350  |               |          |         | C                 | 990,387               | 7,549           | 9,734,273    |
| 354  |               |          |         | R                 | 562,685               | 4,245           | 9,664,475    |
| 358  |               |          |         | R                 | 836,810               | 5,947           | 9,594,564    |
| 362  |               |          |         | R                 | 877,840               | 5,407           | 9,190,293    |
| 366  |               |          |         | R                 | 1,067,750             | 8,421           | 9,042,570    |
| 370  |               |          |         | R                 | NA                    | 2,323           | 8,855,288    |
| 374  |               |          |         | C                 | 1,120,096             | 6,839           | 8,226,521    |
| 378  |               |          |         | C                 | 1,117,495             | 6,174           | 8,140,965    |
| 382  |               |          |         | C                 | 1,054,203             | 6,556           | 7,852,960    |
| 386  |               |          |         | C                 | 679,150               | 5,208           | 7,645,471    |
| 389  |               |          |         | C                 | 611,545               | 5,596           | 7,202,684    |
| 392  |               |          |         | C                 | 749,352               | 5,457           | 7,168,569    |
| 396  |               |          |         | C                 | 562,208               | 4,332           | 6,520,192    |
| 400  |               |          |         | C                 | 599,405               | 4,238           | 6,499,346    |

## Opioid Shipments to Pharmacies in Summit County, OH

2006 - 2014

| Page | DEA<br>Number | Pharmacy | Address | Type <sup>1</sup> | Total Dosage<br>Units | Weight<br>in mg | Total<br>MME |
|------|---------------|----------|---------|-------------------|-----------------------|-----------------|--------------|
| 404  | REDACTED      |          |         | C                 | 732,860               | 5,287           | 6,465,281    |
| 408  |               |          |         | R                 | 715,080               | 4,088           | 6,326,803    |
| 412  |               |          |         | C                 | 886,475               | 5,181           | 6,313,363    |
| 416  |               |          |         | C                 | 739,895               | 4,536           | 6,272,609    |
| 420  |               |          |         | C                 | 749,565               | 4,629           | 5,336,743    |
| 424  |               |          |         | R                 | 187,255               | 2,639           | 5,181,977    |
| 427  |               |          |         | R                 | 494,700               | 3,719           | 4,913,541    |
| 431  |               |          |         | C                 | 295,424               | 2,480           | 4,819,412    |
| 434  |               |          |         | C                 | 325,952               | 2,715           | 4,723,533    |
| 438  |               |          |         | R                 | 283,946               | 2,619           | 4,014,458    |
| 441  |               |          |         | C                 | 467,693               | 2,462           | 3,675,655    |
| 446  |               |          |         | C                 | 528,462               | 3,354           | 3,421,834    |
| 450  |               |          |         | C                 | 330,755               | 2,718           | 3,046,121    |
| 454  |               |          |         | R                 | 339,230               | 2,620           | 2,874,119    |
| 457  |               |          |         | R                 | 67,320                | 1,870           | 2,869,321    |
| 461  |               |          |         | C                 | 215,930               | 1,780           | 2,817,303    |
| 465  |               |          |         | C                 | 325,755               | 2,179           | 2,349,111    |
| 469  |               |          |         | R                 | 175,210               | 1,488           | 2,162,236    |
| 472  |               |          |         | C                 | 308,975               | 1,756           | 1,925,489    |
| 477  |               |          |         | C                 | 276,335               | 1,640           | 1,434,545    |
| 480  |               |          |         | R                 | NA                    | 946             | 1,427,207    |
| 483  |               |          |         | C                 | 183,459               | 1,091           | 1,335,771    |
| 487  |               |          |         | C                 | 75,815                | 458             | 1,175,799    |
| 491  |               |          |         | C                 | 116,620               | 803             | 1,006,798    |
| 494  |               |          |         | C                 | 61,820                | 509             | 876,246      |
| 497  |               |          |         | R                 | 36,845                | 258             | 825,287      |
| 500  |               |          |         | C                 | 42,370                | 471             | 689,206      |
| 503  |               |          |         | C                 | 85,390                | 562             | 655,663      |
| 507  |               |          |         | R                 | 22,885                | 357             | 560,164      |
| 510  |               |          |         | C                 | 33,510                | 378             | 504,156      |
| 513  |               |          |         | R                 | 67,645                | 526             | 465,785      |
| 516  |               |          |         | C                 | 30,780                | 239             | 455,845      |
| 519  |               |          |         | R                 | NA                    | 266             | 423,837      |

## Opioid Shipments to Pharmacies in Summit County, OH

2006 - 2014

| Page | DEA<br>Number | Pharmacy | Address | Type <sup>1</sup> | Total Dosage<br>Units | Weight<br>in mg | Total<br>MME |
|------|---------------|----------|---------|-------------------|-----------------------|-----------------|--------------|
| 522  | REDACTED      |          |         | R                 | 35,310                | 177             | 185,506      |
| 525  |               |          |         | R                 | 43,600                | 184             | 173,696      |
| 528  |               |          |         | C                 | 18,600                | 110             | 109,598      |
| 531  |               |          |         | C                 | 15,200                | 83              | 74,327       |
| 534  |               |          |         | R                 | 18,010                | 103             | 64,447       |
| 538  |               |          |         | R                 | NA                    | 16              | 28,242       |
| 541  |               |          |         | R                 | 4,010                 | 19              | 27,462       |
| 544  |               |          |         | R                 | 720                   | 8               | 23,857       |
| 547  |               |          |         | R                 | NA                    | 7               | 6,787        |
| 550  |               |          |         | R                 | NA                    | 2               | 4,449        |

Note

1. "R" denotes "Retail Pharmacy", and "C" denotes "Chain Pharmacy".

## Opioid Total MME by Company in Cuyahoga County, OH

| County Population              |              |               | 1,312,816   | 1,301,540   | 1,291,479   | 1,285,082   | 1,278,200   | 1,270,461   | 1,266,210   | 1,264,622   | 1,262,459   |
|--------------------------------|--------------|---------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Total MME                      |              |               | 514,672,000 | 567,224,195 | 595,633,999 | 664,429,159 | 700,133,566 | 715,923,558 | 663,462,852 | 622,682,981 | 579,123,262 |
| Company Name                   | Market Share | MME           | 2006        | 2007        | 2008        | 2009        | 2010        | 2011        | 2012        | 2013        | 2014        |
| Cardinal Health                | 31.52%       | 1,772,506,417 | 211,558,384 | 226,171,859 | 231,753,919 | 252,864,538 | 203,528,654 | 192,162,304 | 166,465,391 | REDACTED    |             |
| AmerisourceBergen Drug         | 25.73%       | 1,446,867,175 | 74,341,574  | 89,417,108  | 93,430,832  | 112,487,542 | 183,416,748 | 195,494,791 | 182,084,787 |             |             |
| Walgreen Co                    | 16.01%       | 900,461,722   | 102,739,278 | 113,357,810 | 124,504,422 | 127,680,333 | 137,345,884 | 138,289,923 | 120,879,178 |             |             |
| McKesson Corporation           | 15.27%       | 858,579,288   | 73,359,398  | 82,283,818  | 88,902,749  | 96,054,683  | 97,001,677  | 109,572,526 | 106,064,746 |             |             |
| CVS                            | 3.08%        | 173,363,979   | 15,250,631  | 18,711,487  | 19,561,480  | 20,950,439  | 20,865,975  | 22,003,043  | 21,976,135  |             |             |
| Wal-Mart                       | 1.28%        | 71,789,966    | 5,679,486   | 6,629,013   | 7,694,051   | 9,375,676   | 9,376,092   | 9,054,796   | 8,616,136   |             |             |
| H. D. Smith                    | 1.18%        | 66,166,989    | 89,745      | 117,604     | 243,688     | 4,871,771   | 14,211,080  | 9,852,110   | 14,279,640  |             |             |
| Prescription Supply Inc        | 1.04%        | 58,441,306    | 13,734,295  | 11,283,779  | 10,684,735  | 11,633,735  | 1,510,935   | 2,535,165   | 2,751,589   |             |             |
| Anda, Inc                      | 0.89%        | 50,178,701    | 1,746,390   | 1,562,323   | 2,505,022   | 2,933,492   | 1,145,317   | 2,429,220   | 3,700,976   |             |             |
| Discount Drug Mart             | 0.83%        | 46,893,714    | 4,264,887   | 4,919,559   | 4,964,080   | 5,606,245   | 5,607,325   | 5,580,369   | 5,472,090   |             |             |
| Rite Aid                       | 0.75%        | 42,375,835    | 6,876,206   | 8,220,480   | 7,830,624   | 5,406,939   | 4,953,934   | 2,931,133   | 2,442,396   |             |             |
| HBC Service Company            | 0.75%        | 42,100,926    | 0           | 0           | 0           | 1,333,997   | 8,305,011   | 9,733,591   | 9,062,796   |             |             |
| Eckerd Corporation             | 0.37%        | 20,985,763    | 0           | 0           | 0           | 2,196,444   | 2,757,281   | 4,621,879   | 4,601,969   |             |             |
| KeySource Medical              | 0.25%        | 14,107,055    | 26,018      | 500,462     | 112,977     | 6,366,092   | 4,988,634   | 2,112,872   | 0           |             |             |
| West-Ward Pharmaceutical Corp. | 0.22%        | 12,310,225    | 0           | 0           | 0           | 0           | 0           | 3,145,250   | 8,200,802   |             |             |
| Fagron Inc                     | 0.17%        | 9,780,294     | 926,196     | 1,861,160   | 1,840,476   | 2,120,858   | 1,713,233   | 699,334     | 291,484     |             |             |
| Hospira Worldwide LLC          | 0.12%        | 6,591,230     | 0           | 0           | 40,304      | 187,257     | 574,736     | 1,496,509   | 3,494,472   |             |             |
| The Harvard Drug Group         | 0.06%        | 3,528,616     | 449,104     | 515,470     | 463,131     | 514,809     | 69,157      | 1,424,120   | 65,233      |             |             |
| River City Pharma              | 0.05%        | 2,919,369     | 3,315       | 0           | 9,512       | 465,789     | 552,747     | 1,346,558   | 487,484     |             |             |
| Henry Schein Inc               | 0.04%        | 2,093,698     | 159,333     | 144,199     | 135,264     | 107,329     | 144,866     | 279,383     | 335,320     |             |             |
| Akorn, Inc.                    | 0.04%        | 2,038,285     | 0           | 0           | 0           | 0           | 0           | 0           | 294,910     |             |             |
| Smith Drug Company             | 0.03%        | 1,487,869     | 0           | 11,211      | 49,380      | 130,810     | 222,911     | 281,785     | 303,539     |             |             |
| Amneal Pharmaceuticals LLC     | 0.02%        | 1,325,826     | 0           | 0           | 0           | 0           | 0           | 0           | 0           |             |             |
| Safecor Health, LLC            | 0.02%        | 1,271,296     | 0           | 0           | 0           | 0           | 940         | 8,313       | 99,105      |             |             |
| PSS World Medical Inc          | 0.02%        | 1,192,883     | 272,869     | 155,286     | 182,675     | 177,526     | 166,566     | 165,631     | 72,331      |             |             |
| MWI Veterinary Supply          | 0.02%        | 1,111,976     | 0           | 303         | 1,438       | 5,089       | 38,094      | 103,960     | 149,815     |             |             |
| American Sales Company         | 0.02%        | 1,077,349     | 1,077,349   | 0           | 0           | 0           | 0           | 0           | 0           |             |             |
| Fisher Clinical Services Inc   | 0.02%        | 1,037,766     | 508,472     | 406,249     | 1,076       | 0           | 0           | 0           | 114,707     |             |             |
| Baxter Healthcare Corp         | 0.02%        | 884,536       | 0           | 0           | 0           | 4,136       | 880,400     | 0           | 0           |             |             |
| Value Drug Co                  | 0.01%        | 807,273       | 0           | 0           | 0           | 0           | 0           | 0           | 0           |             |             |
| Miami-Luken                    | 0.01%        | 698,012       | 688,931     | 8,022       | 605         | 454         | 0           | 0           | 0           |             |             |
| Dispensing Solutions           | 0.01%        | 627,327       | 0           | 0           | 0           | 73,819      | 121,720     | 178,985     | 153,224     |             |             |
| Priority Healthcare            | 0.01%        | 589,832       | 82,314      | 49,854      | 56,395      | 70,750      | 66,897      | 58,183      | 74,062      |             |             |
| Quest Pharmaceuticals Inc      | 0.01%        | 561,456       | 0           | 0           | 23,059      | 113,867     | 58,287      | 47,675      | 295,377     |             |             |
| ACE Surgical Supply Co Inc     | 0.01%        | 468,215       | 77,500      | 75,500      | 78,700      | 74,575      | 76,706      | 67,876      | 11,043      |             |             |
| Patterson Logistics Services   | 0.01%        | 401,155       | 0           | 0           | 0           | 0           | 3,951       | 10,865      | 13,497      |             |             |
| Professional Vet Products      | 0.01%        | 394,428       | 41,880      | 84,063      | 102,853     | 110,434     | 55,197      | 0           | 0           |             |             |
| Pharmacy Service Ctr Distr     | 0.01%        | 354,958       | 71,915      | 70,308      | 94,827      | 65,651      | 44,099      | 8,158       | 0           |             |             |
| Almac Clinical Services, Inc.  | 0.01%        | 325,967       | 0           | 0           | 0           | 0           | 0           | 0           | 217,312     |             |             |
| Darby Dental Supply, LLC       | 0.01%        | 322,080       | 220,726     | 27,575      | 40,893      | 14,530      | 7,265       | 5,585       | 908         |             |             |

## Opioid Total MME by Company in Summit County, OH

| County Population                    |              | 544,660       | 544,275     | 543,116     | 542,135     | 541,648     | 541,293     | 540,716     | 541,601     | 542,095     |      |
|--------------------------------------|--------------|---------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|------|
| Total MME                            |              | 367,366,660   | 400,893,335 | 382,352,016 | 419,131,994 | 472,731,914 | 474,030,643 | 447,468,100 | 420,702,314 | 367,150,422 |      |
| Company Name                         | Market Share | MME           | 2006        | 2007        | 2008        | 2009        | 2010        | 2011        | 2012        | 2013        | 2014 |
| Cardinal Health                      | 29.17%       | 1,094,306,610 | 109,945,174 | 120,729,880 | 134,595,363 | 166,421,419 | 142,185,012 | 109,793,985 | 98,636,285  | REDACTED    |      |
| AmerisourceBergen Drug               | 26.01%       | 975,859,370   | 104,837,042 | 112,001,944 | 73,707,661  | 59,918,202  | 125,431,261 | 147,929,274 | 145,576,933 |             |      |
| McKesson Corporation                 | 25.18%       | 944,639,007   | 64,615,079  | 75,326,267  | 92,025,606  | 100,767,249 | 99,622,867  | 112,858,772 | 109,216,034 |             |      |
| Walgreen Co                          | 10.77%       | 404,162,318   | 42,298,424  | 48,542,791  | 53,098,944  | 58,638,984  | 65,393,996  | 62,985,269  | 55,986,121  |             |      |
| CVS                                  | 2.44%        | 91,634,443    | 7,735,298   | 9,648,482   | 9,957,458   | 11,317,292  | 11,277,436  | 12,074,340  | 11,639,009  |             |      |
| Anda, Inc                            | 1.27%        | 47,823,397    | 23,113,707  | 18,494,173  | 199,496     | 1,068,668   | 785,565     | 1,485,215   | 1,991,707   |             |      |
| Miami-Luken                          | 1.24%        | 46,541,721    | 2,874,541   | 2,981,400   | 4,170,946   | 5,686,830   | 7,165,433   | 6,459,756   | 6,137,244   |             |      |
| Wal-Mart                             | 1.12%        | 42,168,558    | 4,581,255   | 5,419,610   | 5,299,513   | 5,653,210   | 5,248,139   | 4,793,747   | 3,654,359   |             |      |
| HBC Service Company                  | 0.91%        | 34,241,388    | 0           | 0           | 0           | 985,080     | 6,273,857   | 7,638,028   | 7,568,525   |             |      |
| Rite Aid                             | 0.85%        | 32,036,395    | 4,786,038   | 5,616,594   | 5,748,119   | 3,409,806   | 93,330      | 3,800,833   | 3,548,284   |             |      |
| Discount Drug Mart                   | 0.33%        | 12,518,489    | 1,111,471   | 1,324,559   | 1,375,870   | 1,541,632   | 1,525,410   | 1,470,976   | 1,362,368   |             |      |
| Eckerd Corporation                   | 0.24%        | 9,021,990     | 0           | 0           | 0           | 1,563,573   | 4,772,779   | 805,493     | 672,011     |             |      |
| KeySource Medical                    | 0.08%        | 2,947,595     | 0           | 0           | 547,041     | 470,315     | 1,447,043   | 483,197     | 0           |             |      |
| Amatheon Inc                         | 0.07%        | 2,568,047     | 0           | 0           | 66,300      | 238,567     | 500,046     | 343,489     | 396,010     |             |      |
| Auburn Pharmaceutical                | 0.04%        | 1,565,315     | 220,971     | 7,856       | 538,832     | 114,370     | 110,217     | 133,590     | 98,553      |             |      |
| PSS World Medical Inc                | 0.03%        | 1,265,285     | 409,567     | 168,590     | 164,902     | 226,520     | 117,775     | 118,928     | 59,004      |             |      |
| Henry Schein Inc                     | 0.03%        | 1,256,372     | 76,936      | 83,178      | 68,980      | 51,467      | 85,483      | 66,428      | 90,974      |             |      |
| Almac Clinical Services, Inc.        | 0.02%        | 761,726       | 112,320     | 0           | 0           | 0           | 64,838      | 173,100     | 293,332     |             |      |
| The Harvard Drug Group               | 0.02%        | 710,056       | 605         | 104,511     | 238,548     | 304,484     | 23,232      | 15,845      | 15,438      |             |      |
| H. D. Smith                          | 0.01%        | 468,812       | 0           | 0           | 0           | 0           | 90,237      | 178,876     | 196,672     |             |      |
| River City Pharma                    | 0.01%        | 461,355       | 0           | 3,784       | 0           | 85,505      | 3,930       | 27,092      | 24,216      |             |      |
| MWI Veterinary Supply                | 0.01%        | 443,562       | 4,238       | 3,330       | 2,292       | 1,800       | 43,133      | 133,576     | 87,509      |             |      |
| Southern Anesthesia & Surgical, Inc. | 0.01%        | 380,191       | 0           | 0           | 0           | 0           | 0           | 0           | 39,219      |             |      |
| Priority Healthcare                  | 0.01%        | 366,734       | 24,269      | 25,048      | 37,354      | 77,589      | 49,314      | 50,571      | 36,185      |             |      |
| American Sales Company               | 0.01%        | 365,639       | 365,639     | 0           | 0           | 0           | 0           | 0           | 0           |             |      |
| Butler Animal Health Supply          | 0.01%        | 358,824       | 22,137      | 22,083      | 35,832      | 234,314     | 44,458      | 0           | 0           |             |      |
| Rochester Drug Co-Operative Inc      | 0.01%        | 269,151       | 1,788       | 22,694      | 152,611     | 82,070      | 2,421       | 7,568       | 0           |             |      |
| Prescription Supply Inc              | 0.01%        | 264,716       | 2,252       | 143         | 0           | 63,907      | 42,696      | 1,278       | 27,038      |             |      |
| PD-Rx Pharmaceuticals Inc            | 0.01%        | 246,467       | 40,955      | 73,996      | 102,040     | 28,454      | 0           | 0           | 0           |             |      |
| Fisher Clinical Services Inc         | 0.01%        | 210,147       | 95,668      | 3,972       | 0           | 13,642      | 0           | 96,864      | 0           |             |      |
| Patterson Logistics Services         | 0.00%        | 170,924       | 0           | 0           | 0           | 0           | 22,340      | 32,349      | 20,618      |             |      |
| Expert-Med                           | 0.00%        | 158,300       | 1,949       | 156,350     | 0           | 0           | 0           | 0           | 0           |             |      |
| JOM Pharmaceutical Services, Inc.    | 0.00%        | 156,862       | 0           | 0           | 0           | 0           | 156,862     | 0           | 0           |             |      |
| Midwest Veterinary Supply Inc        | 0.00%        | 155,446       | 303         | 605         | 286         | 0           | 0           | 0           | 303         |             |      |
| Associated Pharmacies Inc            | 0.00%        | 140,530       | 0           | 0           | 0           | 0           | 0           | 0           | 143         |             |      |
| Pharmacy Service Ctr Distr           | 0.00%        | 138,773       | 14,712      | 11,622      | 8,703       | 5,946       | 24,471      | 26,733      | 21,890      |             |      |
| Independent Pharmacy Cooperative     | 0.00%        | 133,075       | 0           | 0           | 0           | 0           | 0           | 0           | 0           |             |      |
| Fagron Inc                           | 0.00%        | 117,493       | 0           | 0           | 60,540      | 56,400      | 0           | 553         | 0           |             |      |
| Watson Pharma Inc                    | 0.00%        | 90,000        | 0           | 0           | 90,000      | 0           | 0           | 0           | 0           |             |      |
| Medisca Inc.                         | 0.00%        | 76,730        | 0           | 15,135      | 0           | 0           | 15,135      | 0           | 0           |             |      |
| DRx Pharmaceutical Consultants, Inc. | 0.00%        | 60,199        | 34,045      | 15,007      | 9,548       | 1,598       | 0           | 0           | 0           |             |      |
| Smith Medical Partners LLC           | 0.00%        | 53,196        | 0           | 0           | 0           | 0           | 53,196      | 0           | 0           |             |      |
| Darby Dental Supply, LLC             | 0.00%        | 52,034        | 7,357       | 6,811       | 3,632       | 9,081       | 6,659       | 6,054       | 4,238       |             |      |